

RESTRICTED CIRCULATION

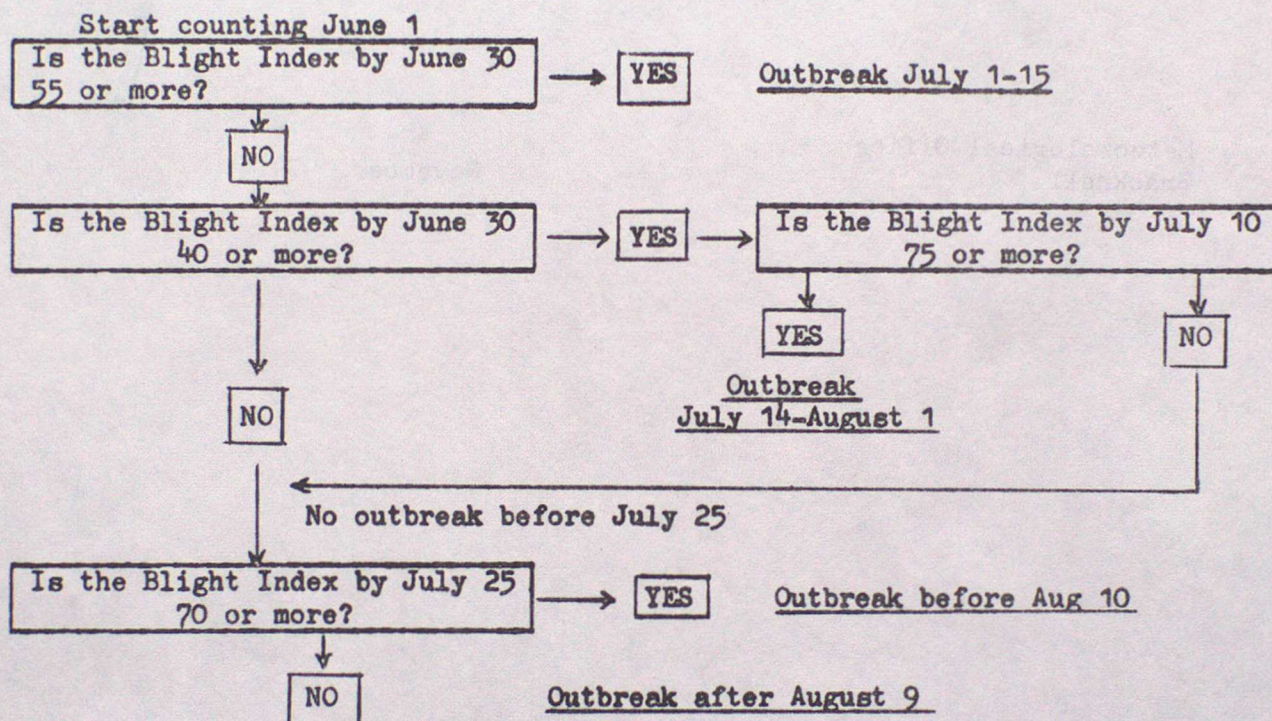
THIS PAPER IS NOT AN OFFICIAL DOCUMENT; IT IS FOR INFORMATION ONLY AND
MUST NOT BE QUOTED IN ANY PRINTED PUBLICATION

Agricultural Memorandum No 673a

The Significance of 90% critical periods for Potato Blight

J M Seager

A check was carried out on the scheme for potato blight forecasting put forward in Ag. Mem 673 using the 2 years, 1964 and 1965. Because of warm humid weather early in these years, the scheme did not give very good forecasts, only 61% were correct and 39% were late forecasts. An alternative scheme was therefore sought which would be applicable to the complete series of years 1964-72. The new scheme involves counting the Blight Index from June 1st instead of June 15 and is set out below.



This scheme gives forecasts 79% correct, 14% early and 6% late. (When 2 outbreaks are recorded for the same station in one year, the forecast is counted as correct if it is correct for either one of the outbreaks.)

Analysis of late errors

1966	Thorney Island	Outbreaks dates 1 July and 28 July. Index on 10 July was zero at Thorney Island but was 67 (giving a correct forecast) at Boscombe Down. A synoptic use of the index would have obviated this error.
1966	Elmdon	Outbreaks dates 5 July and 30 July. Index on 20 July was only 39, implying no outbreak before 25 July which is only partially true. Elmdon, being a civil airport, may be underrecording high humidities.
1965 1966	Ringway	The instrument exposure at Ringway is known to be affected by adjacent buildings, car parks and jet exhausts. It probably underestimates high humidities.

1969	Leeming	Outbreak date 1 August. No significant periods recorded.
1969	Thorney Island	Outbreak date 1 August. Forecast would have suggested a date after 9 August. There was very little blight in south central England that year.
1970	Elmdon	Outbreak date 4 August. Forecast would have suggested after 9 August. Again the airport exposure may have affected the humidity readings.

Any comments or suggestions on this paper should be referred to the author.

Meteorological Office
Bracknell

November 1974

APPENDIX

	Station	Year	Outbreak	Blight Index					
				Jun 1-30	Jul 1-10	Jul 11-25	Jul 26-31	Aug 1-16	After Aug 16
1	Thorney Is	1966	Jul 1 (Also Jul 28)	0	0				
2	Manston	1971	Jul 1 (Also Aug 5)	75	0				
3	Elmdon	1966	Jul 5 (Also Jul 30)	39	0				
4	Valley	1965	Jul 6	184	12				
5	Waddington	1965	Jul 8 (Also Jul 28)	0	0				
6	Valley	1966	Jul 8	190	84				
7	Manston	1968	Jul 8	129	12				
8	Waddington	1966	Jul 12 (Also Aug 15)	116	0	0			
9	Thorney Is	1967	Jul 12 (Also Aug 15)	147	0	0			
10	Valley	1967	Jul 12	135	23	0			
11	Thorney Is	1964	Jul 13	167	0	29			
12	Mildenhall	1964	Jul 14 (Also Aug 4)	54	0	21			
13	Mildenhall	1965	Jul 14	61	0	0			
14	Manston	1965	Jul 14	108	0	36			
15	Thorney Is	1965	Jul 14	102	0	56			
16	Elmdon	1967	Jul 14 (Also Aug 16)	57	0	0			
17	Mildenhall	1968	Jul 14	80	28	33			
18	Elmdon	1971	Jul 14 (Also Jul 28)	30	67	12			
19	Valley	1971	Jul 14	128	27	0			
20	Boscombe D	1966	Jul 15	67	30	0			
21	Waddington	1968	Jul 15 (Also Jul 26)	95	49	38			
22	Thorney Is	1968	Jul 15	126	36	31			
23	Elmdon	1964	Jul 16 (Also Aug 14)	23	0	0			
24	Valley	1964	Jul 16	172	0	83			
25	Ringway	1966	Jul 17	0	22	0			
26	Elmdon	1965	Jul 18 (Also Jul 27)	32	0	75			
27	Valley	1968	Jul 18	50	39	0			
28	Manston	1964	Jul 20	111	0	26			
29	Boscombe D	1968	Jul 22	115	44	39			
30	Boscombe D	1965	Jul 23	62	0	110			
31	Boscombe D	1964	Jul 24	89	0	21			
32	Manston	1969	Jul 25	49	0	22			
33	Manston	1972	Jul 25	0	38	126			
34	Valley	1972	Jul 25	53	39	38			
35	Manston	1966	Jul 26	0	0	70	0		
36	Thorney Is	1972	Jul 26	0	85	53	0		
37	Ringway	1964	Jul 28 (Also Aug 25)	0	0	0	0		
38	Valley	1970	Jul 28	105	59	110	57		
39	Boscombe D	1972	Jul 28	29	74	100	0		
40	Waddington	1964	Jul 29 (Also Aug 13)	0	0	20	0		
41	Ringway	1965	Jul 29	0	0	0	0		
42	Mildenhall	1966	Jul 29	0	25	49	11		
43	Leeming	1964	Jul 30	0	0	93	0		
44	Leeming	1965	Jul 30	25	0	106	0		
45	Leeming	1969	Aug 1	0	0	0	0	0	
46	Thorney Is	1969	Aug 1	0	0	23	24	12	
47	Elmdon	1970	Aug 4	0	0	0	0	21	
48	Valley	1969	Aug 5	14	29	114	0	45	
49	Leeming	1971	Aug 5	27	0	47	51	36	
50	Waddington	1972	Aug 8	0	28	130	12	27	
51	Leeming	1967	Aug 10	0	0	34	0	27	
52	Mildenhall	1967	Aug 10	0	0	0	0	28	
53	Leeming	1970	Aug 10	46	0	21	0	61	

54	Leeming	1966	Aug 11	120	0	0	0	0	
55	Waddington	1971	Aug 11	36	77	12	50	34	
56	Waddington	1969	Aug 12	0	0	28	62	99	
57	Elmdon	1969	Aug 12	0	0	0	35	93	
58	Ringway	1967	Aug 13	28	0	0	0	44	
59	Mildenhall	1969	Aug 13	0	0	0	35	27	
60	Ringway	1970	Aug 13	30	0	0	29	24	
61	Thorney Is	1971	Aug 13	0	28	0	0	0	
62	Ringway	1971	Aug 13	32	0	0	0	12	
63	Boscombe D	1967	Aug 15	70	0	46	84	89	
64	Waddington	1970	Aug 15	0	0	25	26	88	
65	Manston	1970	Aug 15	20	21	20	0	116	
66	Thorney Is	1970	Aug 15	80	27	20	68	68	
67	Leeming	1972	Aug 15	0	0	104	21	33	
68	Ringway	1972	Aug 15	0	0	43	0	0	
69	Waddington	1967	Aug 16	44	0	54	0	54	
70	Manston	1967	Aug 16	33	0	0	51	65	
71	Leeming	1968	Aug 16	10	56	25	0	75	
72	Honington	1972	Aug 16	0	28	112	44	26	
73	Honington	1971	Aug 17	32	35	31	47	78	0
74	Boscombe D	1970	Aug 19	74	59	50	49	50	17
75	Ringway	1968	Aug 26	0	48	23	0	0	0
76	Honington	1970	Aug 29	0	0	0	0	32	42
77	Boscombe D	1971	Sep 1	45	48	48	45	133	57
78	Ringway	1969	Sep 16	0	0	22	0	67	75
79	Elmdon	1968	none	20	27	0	0	0	0
80	Boscombe D	1969	none	0	0	0	0	78	13
81	Elmdon	1972	none	22	0	71	21	37	24